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The Processes of Designing and Implementing Globally Networked Learning Environments and their Implications on College Instructors' Professional Learning: The Case of Québec CÉGEPs

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The Processes of Designing and Implementing Globally Networked Learning Environments and their Implications on College Instructors' Professional Learning: The Case of Québec CÉGEPs
Les processus de conception et de mise en œuvre de milieux d'apprentissage en réseautés internationalement et leur influence sur le perfectionnement professionnel des enseignants : le cas des cégeps

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Abstract
This study describes the design and implementation processes of globally networked learning environments (GNLEs) in a college environment and discusses how these processes may contribute to instructors' professional learning. A thematic analysis was conducted on five interviews with instructors working in Quebec general and vocational colleges (CEGEPs). The design and implementation processes were mapped out using Fretchling's (2007) logic modeling basic components. Findings suggest that GNLEs in a college context take the form of joint lectures or joint activities. Instructors reported that designing and teaching within a GNLE had led to pedagogical, intercultural and technology-related learning; and that learning was fostered by unforeseen challenges as well as long-standing partnerships.

Résumé
L'objectif de cette étude est de décrire les processus de conception et de mise en œuvre de milieux d'apprentissage réseautés internationalement (MARI) dans un environnement collégial ainsi que d'analyser leur influence sur le perfectionnement professionnel. Une analyse thématique réalisée à partir de cinq entrevues avec des enseignants de cégeps a permis d'élaborer un modèle logique (Fretchling 2007). Les résultats suggèrent que les MARI implantés dans un collège prennent surtout la forme de cours magistraux ou d'activités pédagogiques conjointes. Pour les enseignants impliqués, le perfectionnement (pédagogique, interculturel ou technologique) résulte des imprévus et des partenariats durables inhérents aux MARI.

Keywords: globally networked learning environments, professional learning, internationalization, colleges, Quebec
Mots-clés: milieu d'apprentissage réseautés internationalement (MARI), perfectionnement professionnel, internationalisation, cégeps, Québec

Introduction
Globalization is a geo-spatial process of interdependence and integration (Assayag & Fuller, 2005) that creates new constraints and opportunities for educational institutions (Levin, 2001). To benefit from these opportunities, higher education institutions have integrated an international or intercultural dimension into their mission, functions and training (Knight, 2004). For instance, various higher education institutions provide study abroad activities that have found to enhance students' intercultural competencies, academic achievement (Peppas, 2005), linguistic skills and employability (Blumenthal et al., 1996). Yet, despite a major increase in students participating in study abroad activities (Dwyer, 2004), participation rates remain overall below 5% (Canadia Bureau for International Education, 2012).

While studying abroad remains the privilege of the elites (Daly & Barker, 2010), internationalization within classrooms appears as an alternative (Gacel-Avilá, 2005) and globally networked learning environments (GNLEs) can be a means to providing access to an international experience. Starke-Meyerring (2010) understands GNLEs as:

> Learning environments […] integrating experiential learning opportunities for cross-boundary knowledge making; that is, these GNLEs are specifically designed to help students learn how to participate in shared knowledge-making practices with peers and colleagues across traditional boundaries. These GNLEs therefore extend beyond the confines of traditional local classrooms, linking students to peers, instructors, professionals, experts, and communities from diverse contexts (p. 261).

GNLEs usually takes the form of an internet-based classroom partnership and shared learning environment in which instructors who are geographically distant jointly develop a learning activity, a course or a program and teach it simultaneously both to their regular (physical) classroom as well as to their partner's classroom (Starke-Meyerring et al., 2008). In these transnational educational settings, students have access to various expertise and opportunities to work with peers from other cultures. Numerous studies demonstrate that GNLEs teach students to adapt their communication style, avoid ethnocentric bias, and develop professional and leadership skills (DuBabcock & Varner, 2008; Fitch, Kirby & Amador, 2008; Kenon, 2008; Starke-Meyerring, Duin & Palvetzian, 2007).

Instructors can also benefit from GNLEs by developing new teaching practices and learning to work with colleagues in other countries (Starke-Meyerring & Andews, 2006; Wilson, 2013). However, most studies do not explain the mechanisms supporting professional learning, especially in the case of GNLEs implemented in colleges.

Background
Working relationships and institutional support in establishing GNLEs
Successful GNLEs seem to be built upon *close* and *equal* relationships through which instructors take decisions on important questions such as course content, grading system, pedagogy, schedule and language uses (Wilson, 2013). The intensity of the working relationship refers to the extent to which instructors' classroom decisions are bound to a set of rules previously agreed with the partner. For instance, GNLEs taking the form of joint courses require a close working relationship since instructors communicate regularly to negotiate each other's pedagogical approach, design the curriculum, adapt to the progression of their students and ensure a fair assessment system (Herrington & Tretyakov, 2005). GNLEs taking the form of joint activities can be implemented although the working relationship is more superficial since activities take place in fewer sessions, do not alter the structure of the course and may serve different purposes for each instructor (DuBabcock & Varner, 2008; Mousten, Vandepitte & Maylath, 2008). Using Harman's (1988) classification of collaboration, it can be said that the latter corresponds to the cooperation level (loose and voluntary agreement for a short-term activity), the former refers to the coordination level (members using jointly decided rules to deal with a common environment). Finally, amalgamation (the autonomy of the partners being deferred to a supra-organization) is applicable to GNLEs that extend beyond a single course and have structural effects on the participating institutions (O'Brien & Eriksson, 2010),

Working relationships can also suffer from power imbalances related to language, institutional status, economic resources, access to technology and information, textbooks and assignments, and leadership (Starke-Meyerring, 2006). As Starke-Meyerring et al. (2008) put it: "Without partnerships rooted in equality and reciprocity, curricula remained monocultural […] and overlooked power imbalances between rich and less well-resourced institutions, countries, and regions" (p.21). In the GNLE described by Fitch, Kirby and Amador (2008), not all participants were native-English speakers, but they promoted reciprocity through shared leadership, common syllabus and a balance between synchronous, asynchronous and regular classroom discussions.

The working relationship between instructors is also shaped by the support each institution provides. A survey disseminated by Starke-Meyerring, Duin and Palvetzian (2007) to 256 faculty members revealed that the keys issues in establishing a GNLE included resources (travel to partner site, workload, technology) and logistics (academic calendars, time zones, credit system). Professors may as well benefit from existing partnerships with institutions abroad, advice from the international office and funding opportunities to meet partners in face-to-face (Starke-Meyerring et al., 2008). Analyzing institutional support in three GNLEs, Wilson (20013) reports that, while in one case, the Director arranged for inter-cultural and online training, some professors explained being constrained by syllabus policies, lack of funding for job relief and international competition between institutions. As Hinson and LaPrairie (2005) write, "The appeal of online coursework, however, is challenging the status quo and creating a need for quality professional development that enables faculty to experiment and apply online skills in the context of their own curriculum" (p. 484).

GNLEs and professional learning
Professional learning is an ongoing, interactive, complex and situated process in which instructors' knowledge shapes their teaching contexts and is constantly being shaped by them (Webster-Wright, 2009). This study uses Clandinin & Connelly's (1995) conceptualization of professional knowledge landscapes to understand how college instructors learn in interaction with the GNLEs. According to Clandinin and Connelly, professional knowledge landscapes are made up of in-classroom and out-of-classroom places that are dynamic and changing. These places have both spatial and temporal dimensions. Furthermore, they are "composed of relationship among people, places and things" (p. 4), and are therefore imbued with "historical, moral, emotional and aesthetic shaping forces" (Craig, 2011, p. 24). Alongside the professional knowledge landscapes metaphor are images of instructors as knowers: "knowers of themselves, of their situation, of students, of subject matter, of teaching, of learning" (Connelly & Clandinin, 1999, p.1). The knowing instructors live and work on their professional knowledge landscapes with their knowledge and learning shaping and being shaped by the landscapes.

GNLEs influences instructors' professional knowledge landscapes by facilitating greater opportunities for instructors' to interact with diverse actors, ideas and cultures beyond brick-and-mortar classrooms. GNLEs are grassroots partnerships in which the instructors build a relationship, develop a "parallel" virtual syllabus and test different technologies and pedagogical methods (Starke-Meyerring et al. 2008). Within a classroom space where GNLEs are implemented, instructors frequently encounter

increased use of electronic media and technology as they interact with subject matters, partner-instructors, and students from their own and others' classroom. Often, GNLE instructors find themselves being "in-between" two culturally-located spaces, having to work actively with "otherness" to create a common space that bridges differences (Wilson, 2013). Additionally, effective e-learning usually revolves around a learner-centered system of instruction (Pelz, 2010), emphasizing students' "funds of knowledge" (Moll, Amanti, Neff & Gonzalez, 1992) and repositioning students as knowledge producers alongside their instructors. As such, students play an important role in shaping instructor's professional knowledge landscape within an increasingly participatory e-learning environment of GNLEs.

Studies suggest that GNLEs have the potential to facilitate instructors' professional learning and growth. Instructors who have designed a GNLE report to have developed pedagogical, technological and intercultural skills (Herrington, & Tretyakov, 2005). For instance, Starke-Meyerring and Andrews (2006) describe a semester-long joint project between a Canadian and a U.S. university in which the faculty members learned to develop virtual tools, handle course materials and assessment of papers, and experiment with new pedagogies. In Wilson (2013), professors who were used to lecturing, report having learned a lot by building a shared environment where students from the partner country challenge the instructor. For Herrington and Tretyakov (2005), it is the "chaos" and "disarray" that fostered their professional learning: "We have found that providing an experiential setting where both our students and we can practice our respective pedagogies has led to a form of internal understanding of what is involved in this realm of communication, despite the accompanying chaos" (p.277).

While promoting new professional learning opportunities, GNLEs could also give rise to professional challenges as demonstrated in this article. These challenges, however, can be met provided that pedagogical and technological preparation are adequate (DuBabcock & Varner 2008). Before the semester starts, Starke-Meyerring and Andrews (2006) had regular discussions to determine the outcomes, extent and shape of the project, schedule the assignments, create a website, align grading and reporting systems, selecting the appropriate technology according to the learning objectives, develop a method to reflect about the partnership, and design interdependence across locations. In short, a carefully-prepared GNLE may foster professional learning; yet, the studies cited above have not examined how GNLEs could potentially foster professional learning in college settings.

GNLEs in a college context: the case of Quebec CEGEPs
Any attempt to democratize access to international experiences should include (community) colleges (Green, 2007). In Canada, colleges educate more than 40% of the undergraduate students and the population of these undergraduate students is growing faster than that in the universities (Statistics Canada, 2009). Yet college undergraduates' participation in study abroad projects is only 1% (ACCC 2010). The college context is however different from the university context and a study focusing on the former could provide relevant guidance for both instructors and administrators.

Unlike universities, colleges are crown agencies that provide education and conduct research in line with their local realities (Skolnik, 2008). E-learning is also shaped by the local context. In 2003, 56% of American colleges offered distance

education courses because it supported their open-door mission, prepare graduates for a technology-focused work market and a world where geographic boundaries fade (Hinson & LaPrairie, 2005). Yet the policies regulating colleges fail to provide the flexibility needed to expand e-learning programs and services (Chaloux, 2004). Moreover, colleges are smaller institutions that rarely provide the same technical support that one can find in a university (Hinson & LaPrairie, 2005).

Canada is the only country with no national ministry of education, so "any investigation of e-learning in Canada must focus more on specific provincial initiatives in technologically enhanced learning rather than a Canadian overview" (McGreal & Anderson, 2007, p.1). College education in different provinces vary greatly (Gallagher & Dennison, 1995), and Quebec general and vocational colleges (CEGEPs) are the most distinctive in that they are tuition free and offer both two-year pre-university education and three-year technical training while having their curricular frameworks defined by the Quebec Ministry of Education (Lavoie, 2008).

The internationalization process in CEGEPs is consequently different. Since 1965, internationalization is supported by the political rationale of promoting the distinctive character of Quebec internationally (Paquin 2006). While most Canadian colleges focus on the recruitment of international students for revenue generation (Association of Canadian Community Colleges, 2010), the CEGEP association (Direction des affaires internationales de la Fédération des CÉGEPs) and the provincial strategy (Ministère de l'Éducation, 2002) primarily support student and staff mobility. In 2013-2014, 4,379 CEGEP students (3.42% of the students) went abroad, 1,257 received funding from the province and 1,685 were supported by their CEGEP, a publicly funded institution (Direction des affaires internationales de la Fédération des CÉGEPs, 2014). College instructors are also more involved in the internationalization process than their university counterparts (Conseil Supérieur de l'Éducation, 2013). In 2013-2014, 690 instructors who, supported by a mobility grant, participated in mobility projects for present conferences, conduct research or exchange position, 90% of student mobility projects are done in group and accompanied by an instructor (Conseil Supérieur de l'Éducation, 2013).

It also seems that the expansion of international activities in CEGEPs does not necessarily entail an expansion of institutional support. For instance, grants allowing administrators to travel abroad to conclude agreements have been abolished and CEGEPs budgets are under pressure (Direction des affaires internationales de la Fédération des CÉGEPs, 2014), resulting in few sustainable partnerships and a low level of institutionalization (Conseil Supérieur de l'Éducation, 2013). Being "unique" is also a challenge when it is the time to find similar programs and prove the value of CEGEPs diplomas.

The objective of this research is therefore to describe the processes of designing and implementing GNLEs in Quebec CEGEPs, and to explore the potential of GNLEs as professional learning opportunities for the participating instructors. By analyzing the respective influence of provincial, collegial and e-learning contexts, our intention is to provide guidance to practitioners who might implement a GNLE. We chose to focus on one province for validity concerns (i.e. limit variations in the provincial context to focus on institutional support and working relationships), yet we hope that findings might be relevant to other Canadian colleges.

Research Methods
The objectives of this research are twofold: to portray the design and implementation process of a GNLE taking place within a college environment, and to observe how this process may foster instructors' professional learning. To fulfill these objectives, the study employs semi-structured interviews with five CEGEP college instructors and follows a naturalistic approach to program evaluation (Patton, 2002). It uses logic modeling and thematic analysis to portray in a non-manipulative way the dynamic process of designing and implementing a GNLE. This study does not evaluate GNLEs *per se*, but aims to produce context-specific understanding of GNLEs' processes and their implications on college instructors' professional learning.

Participants for Semi-Structured Interviews
In early 2014, five instructors agreed to a one-hour semi-structured interview conducted in person or by Skype. Four were conducted in French and one in English. All participants approved interview transcripts before analyses were conducted.

Cases have been selected through an opportunistic sampling method. The sample is small but representative since there were at the time of the study only five CEGEP instructors designing a GNLE. The five instructors are teaching in three CEGEPs. Following the approval from CEGEP Research Ethics Boards, instructors were contacted individually by email. The sample is also inadvertently stratified since it includes Francophone and Anglophone institutions in urban and suburban areas; and instructors teaching in the technical, pre-university and general education sectors.

Table 1. Description of the sample

GNLE	Discipline area	Partners' country	Activities
1	Industrial design/Design	Spain	Instructors jointly make a list of themes that teams on which one team per country will work. Spanish teams design a product while Quebec teams create the prototype. Teams present their work on a common website.
2	Humanities/ English	Russia	Instructors decide on subjects and invite scholars from abroad to give lectures to their classes through webcam. Students interact in class and on a blog.
3	Social sciences	Belgium	In a methodology courses, students choose common subjects and compare methods and results through webcam in some specific sessions. During March Break, Quebec students travel to Belgium for a symposium.
4	Multimedia	Belgium and France	Some students in Belgium and Quebec worked jointly to develop a virtual platform so classes in three countries could work on joint multimedia projects.
5	Literature/ Linguistic	Russia	A Quebec literature instructor invites Russian students in French linguistics to assist with 4-7 lectures.

GNLE 1 was initiated when an industrial design instructor received an offer from his college to participate in a Quebec mission to Barcelona. In a Spanish school of design, he met an instructor giving a similar course and despite the language barrier, they developed through Skype and Moodle the blueprint of a semester-long activity where teams in both locations would choose themes (e.g. slow food, environment and housing) and work on them sequentially. Spanish students imagined a concrete product and Quebec students developed the prototype. Yet the Spanish institution was a school of fine arts and an administrator said that his students could not learn from a technical college. It is worth noting that classes were uneven (100 Spanish students and 5 Quebec students) and that a student strike in Quebec delayed the end of the project. The collaboration was thus stopped after one semester.

In GNLE 2, a humanities instructor was interested in having a classroom open to external influences. He partnered with a university professor in Russia and a college instructor in Ontario to create a "global classroom". The instructors met virtually to determine the learning goals for students and develop lessons plans. Then they would invite scholars whom students would have read beforehand to give a lecture on webcam. Students would then discuss the subject on a blog. The project is still running.

GNLE 3 was initiated because the program of social sciences was implementing an international component and the instructor, who had received funding from the CEGEP Federation to develop a collaboration with Belgium, found an institute that offered similar courses (i.e. methodology and integrated project). Instructors found common themes so students would work in parallel and discuss the research process through Skype. Yet technology, timing and uneven classrooms reduced the number of meeting from seven to one. Quebec students visited Belgium during the March break to present their results in a comparative perspective. However, for future, the Quebec instructor decided to focus only on the travel part and stop the GNLE.

At the time of this study, GNLE 4 was at a preliminary phase. The director of the international office reported an interest from a Belgian institution to establish intern and pedagogical exchanges with the multimedia department. Instructors in both counties obtained funding to meet in person and proposed that two students in each institution develop a virtual platform as a term-project. The platform would allow students in Quebec, Belgium and France (where there were also intern exchanges) to share their projects and receive feedback from three instructors. Yet because the instructor had not obtained a job relief, the project relied on students and became extra-curricular. Belgian and Quebec students did not get along and the project was halted. They however maintain the collaboration through emails and intern exchanges.

Finally, GNLE 5 started when an instructor came back from Russia and proposed to his colleague (teaching French literature) to build a collaboration with a Russian professor of linguistics. As an optional activity, Russian master's students could follow through PolyCorp one hour (or three) the lectures given by the Quebec instructor to his regular classroom. At the time of this study, the collaboration had been going on for four years.

Data Analysis

To map out the dynamic process of designing and implementing GNLEs in college settings, this study uses a logic model as a tool, making explicit the theory of change underlying GNLEs by relying on an "if…then" logic (Fretchling, 2007). Easy to understand and supporting research-community partnerships, logic models are used to explain connections between resources and intended effects (Fielden et al. 2007; Moyer Verhovsek & Wilson 1997). Components include inputs (resources brought to the program), activities (ordered sequence of interdependent actions), outputs (immediate indicators of the progress) and outcomes (changes showing movement towards objectives). Models depict assumed causal connections but make no claim regarding true cause-effect relationships (Taylor-Powell & Henert, 2008).

A thematic analysis was used to identify how the GNLE design and implementation processes may foster professional learning. A "thematic analysis is a method for identifying, analyzing, and reporting patterns (themes) within data" (Braun & Clarke, 2006: p. 6). It can reveal core consistencies in a text, unearth networks between salient textual elements and break a large amount of data into small units that are easier to communicate. To build a thematic map, we used Fretchling's (2007) components as global themes under which we placed the organizing themes (Attride-Stirling, 2012) that had been inductively constructed at the semantic/explicit level, i.e. relying on instructors' perception of the process and outcomes of GNLEs.

Limitations

The study has some limitations since it does not look at student learning and partners' perspective or GNLEs outside Quebec. It is rather a first step in an incremental research endeavour. The sample is small yet representative of the whole population studied and allow us to develop a framework that could be further tested in other contexts. A subsequent study may also be able to observe (or measure) the impact of GNLEs on college students' learning, yet our intent is first to understand the perspectives of those who design GNLEs in non-university contexts. GNLE case studies tend to report partners' perspective (e.g. Starke-Meyerring & Andrews, 2006). This study rather observes the design and implementation of a GNLE in one type of institution (CEGEPs) and adopts the lenses of professional learning to analyze how instructors reflect on their own growth. We acknowledge that the professors' knowledge landscape is however shaped by their partner and students. In terms of analysis, thematic analyses may be perceived as simplistic (Vaismoradi, 2013) and logic models linear (Taylor-Powell & Henert, 2008), but, in addition to further knowledge about GNLEs in non-university contexts, these methods allowus to provide guidance to practitioners who envision developing a GNLE.

Results

In the interviews, CEGEP instructors described why they initiated a GNLE, what were the resources they needed (or would have needed), how they proceeded to develop and implement the activities, what were the expected and achieved outcomes as well as their working relationship with their partner. Inductively, the study grouped these basic themes into organizing themes such as rationales, opportunity, instructors' background, institutional support, technology, working relationship and power balance. These organizing themes were placed under the global theme of "inputs." Next, the study

divided the instructors' description of the GNLE process into themes chronologically organized under the global theme of "activities." The CEGEP instructors also mentioned the benefits of GNLEs for themselves and their students. These perceived benefits were grouped under the global theme of "outcomes." Since the purpose of this study was not to evaluate GNLEs, outputs (indicators of a program's success in logic modelling) were inferred from the description of activities and are only provided for guidance.

The study assembles the four global thematic components following Fretching's (2007) logic modeling. Figure 1 is a thematic map showing these global themes of inputs, activities, outputs and outcomes. The map represents the design, implementation and implications of GNLEs. Yet, actual GNLEs are less linear and more dynamic.

Inputs

For Knight (2004), rationales may be socio-cultural, political, economic or academic. The establishment of GNLEs in CEGEP colleges is often motivated by economic, academic and socio-cultural rationales. Economic rationales include teaching students to work in global settings and preparing future technicians who can jointly work on projects with international partners. Academic rationales include spurring students' motivation by allowing them to receive comments from international scholars. Socio-cultural rationales include preparing students for a multicultural society and a diverse world. As the instructor in GNLE 1 illustrated, a GNLE is "a window to the world […] We open students minds and they see that there is something else."

Since GNLEs might require traveling abroad, buying new technologies and adapting the curriculum, institutional support is essential. CEGEP instructors reported having support from their colleagues. For instance, the instructor of GNLE 1 said, "We are a small team of instructors so we asked 'who is interested'? and when I said 'I was', they said 'Go, try it'. We speak with one voice." Collegiality is also perceptible in GNLEs 3 and 5 as these GNLEs were initiated because their instructors had colleagues who had traveled abroad and could share their contacts with them.

In addition to receiving collegial support, instructors have benefited from the provincial system that encourages outbound mobility and institutions' policy that promote academically-centered international activities. Four instructors received help from the international office to fill up application for provincial travel grants (to meet partners abroad) and three instructors obtained a job relief. The instructor of GNLE 4 however did not obtain a job relief and said that the lack of time had undermined the successful implementation of the GNLE. He said: "We had funding to go there [i.e. meet partners in Belgium] but no time to do the project." Job relief was already identified by Starke-Meyerring et al. (2008) as an essential condition since "faculty [involved in a GNLE] easily reach a time commitment that equals that of two courses" (p.33).

Like their university counterparts, CEGEP instructors may access support from their institution. However, while university professors can use tactics to maneuver constraining syllabi policies, CEGEP instructors cannot formally integrate their GNLE in the curriculum since it is shaped by governmental regulations. CEGEPs are also entirely publicly funded and their internationalization might suffer from governmental budget cuts. For instance, funding for staff mobility has been abolished and some CEGEPs have closed their international office due to lack of funding. All this has had an impact on designing and implementing GNLEs. Provided that CEGEPs rarely institutionalize

initiatives that are marginal to the core services (CSE, 2013), the operation of GNLEs might be unsustainable if they are not integrated into CEGEPs' institutional planning processes.
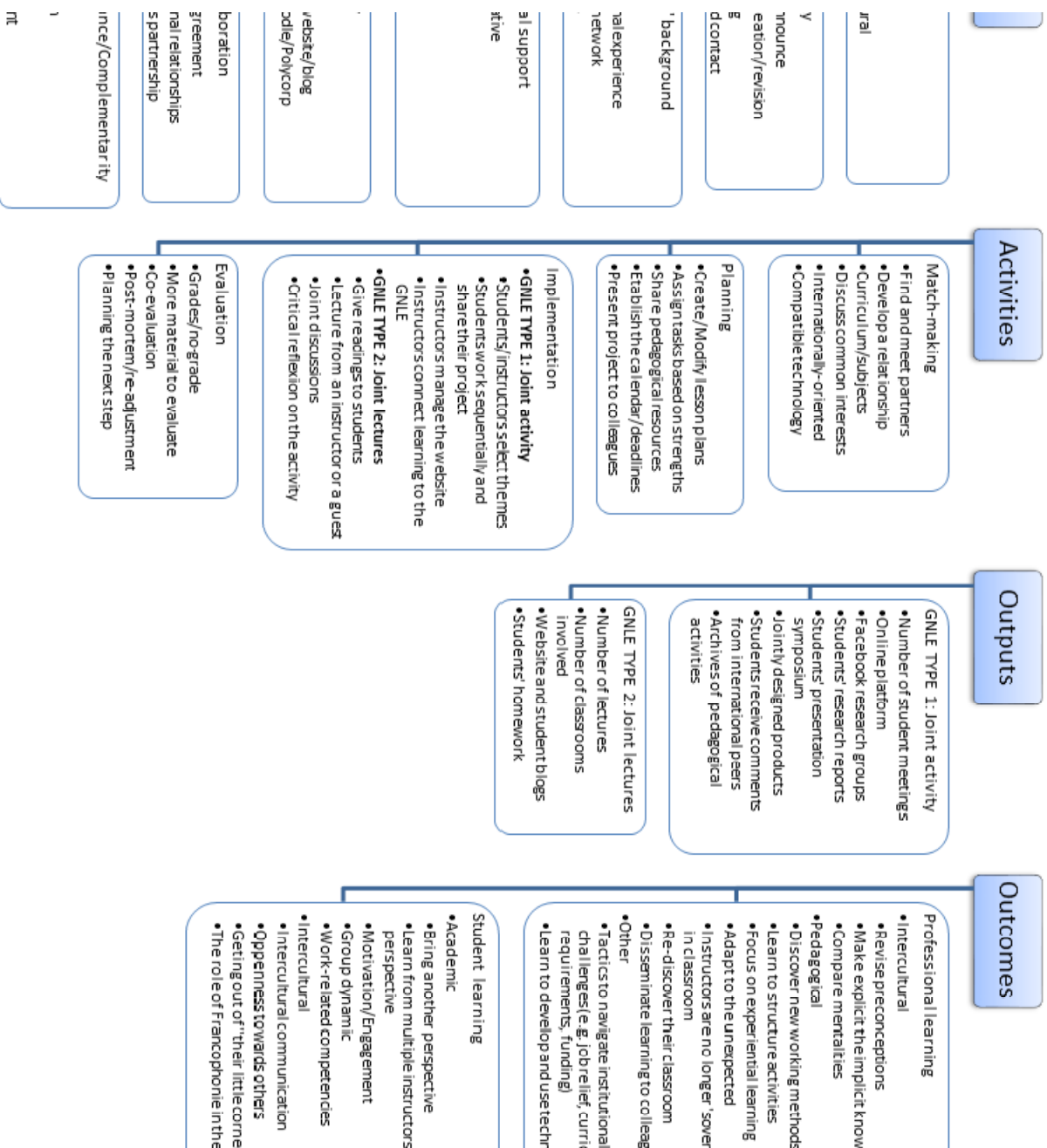
Figure 1. L

Activities

Match-making
•Find and meet partners
•Develop a relationship
•Curriculum/subjects
•Discuss common interests
•Internationally-oriented
•Compatible technology

Planning
•Create/Modify lesson plans
•Assign tasks based on strengths
•Share pedagogical resources
•Etablish the calendar/deadlines
•Present project to colleagues

Implementation
•GNLE TYPE 1: Joint activity
•Students/instructors select themes
•Students work sequentially and share their project
•Instructors manage the website
•Instructors connect learning to the GNLE
•GNLE TYPE 2: Joint lectures
•Give readings to students
•Lecture from an instructor or a guest
•Joint discussions
•Critical reflexion on the activity

Evaluation
•Grades/no-grade
•More material to evaluate
•Co-evaluation
•Post-mortem/re-adjustment
•Planning the next step

Outputs

GNLE TYPE 1: Joint activity
•Number of student meetings
•Online platform
•Facebook research groups
•Students' research reports
•Students' presentation
symposium
•Jointly designed products
•Students receive comments from international peers
•Archives of pedagogical activities

GNLE TYPE 2: Joint lectures
•Number of lectures
•Number of classrooms involved
•Website and student blogs
•Students' homework

Outcomes

Professional learning
•Intercultural
•Revise preconceptions
•Make explicit the implicit know
•Compare mentalities
•Pedagogical
•Discover new working methods
•Learn to structure activities
•Focus on experiential learning
•Adapt to the unexpected
•Instructors are no longer 'sover in classroom
•Re-discover their classroom
•Disseminate learning to colleag
•Other
•Tactics to navigate institutional challenges (e.g. job relief, curric requirements, funding)
•Learn to develop and use techn

Student learning
•Academic
•Bring another perspective
•Learn from multiple instructors perspective
•Motivation/Engagement
•Group dynamic
•Work-related competencies
•Intercultural
•Intercultural communication
•Openness towards others
•Getting out of "their little corner
•The role of Francophonie in the

Activities
Activities refer to actions undertaken by the GNLE instructors and their partners and can be delineated into four steps. First, when an opportunity arises, instructors have to find a partner who is interested in an international collaboration, identify the appropriate course that can be engaged in a GNLE and have shared common interests. As the instructor in GNLE 3 mentioned, "I looked at the programs offered by the Belgian institute. They had a program in social assistance with courses similar to our social science program. So I contacted the person there." Then starts a planning process where instructors decided what form the GNLE would take. For GNLE 2, the instructor reported: "It was a Skype meeting involving [institutions in Quebec, Ontario and Russia] where we shared our interests…We created a Google doc and jointly worked on the lesson plan."

The activities depend on the type of GNLE. While many GNLEs at the university level are joint courses (Wilson, 2013) or joint programs (Crabtree et al., 2008), no GNLE reported in the interviews achieved that level of intensity. One instructor reported that his international partners proposed joint courses, but the CEGEP was not ready: it would require a major involvement from the administrators and pedagogical counselors since CEGEP curricular frameworks are defined by the Quebec Ministry of Education. The GNLEs described by the interviewees were either joint lectures (GNLE 2 & 5) or joint activities (GNLES 1, 3 & 4). Joint lectures correspond to the "cooperation" level - i.e. loose and voluntary agreement for a short-term event (Harman, 1988). These working relationships "extend" the professional landscape without disrupting its foundations, such as the course outline, learning objectives, evaluations or reporting. In a college context where the curricular framework is determined by external authorities, joint lectures seem easier to implement and last longer. For instance, GNLE 2 had been on for three years and GNLE 5 for four years.

Being more intense than joint lectures, joint activities are based on experiential learning and correspond to semester-long collaborations that include common projects, deadlines and grading; thus belonging to the coordination level of working relationship (Harman, 1988). For example, instructor of GNLE 3 said, "students could collaborate on [common] research themes. We selected deadlines when our classes would meet through Skype; for instance, when they choose their subject, the method of data collection and present the results." In GNLE 1, after Spanish students had conceptually imagined a product, "[Quebec] students did a prototype and a website to report on it." Interestingly, the three instructors who designed a GNLE of this type (GNLE 1, 3 and 4) went abroad to meet their partner, a fundamental pre-requisite for them. Since joint activities require trust to build shared learning cultures and negotiate differences in procedures or expectations, face-to-face interactions appear essential (Starke-Meyerring et al., 2008). In fact, for the joint courses she studied, Wilson (2013) states, "the importance of face-to-face meetings was affirmed as a critical component for trust-building and partnership development and sustainability, and unintended benefits of the GNLE were experienced by the partners" (p. 255).

But even when instructors met in person, the success of the GNLE course is uncertain. As mentioned above, GNLE 1, 3 and 4 ended. One explanatory hypothesis is that there is less room for such an "intense" working relationship in colleges because of strictly defined curricula, heavy teaching loads and a less institutionalized internationalization process. More intense working relationships would also require a

greater involvement of administrators. In Crabtree et al. (2008), instructors could develop a joint program (i.e. amalgamation level) because highly ranked administrators have been designed as key liaisons who call each other twice a month to make sure both institutions support the initiative at the same level. CEGEP instructors benefited from the support of colleagues, IT department, international office and the administration (for job relief), yet GNLEs remained "their" project and they were seldom prepared to face the inherent challenges of a closer collaboration.

Another hypothesis for the unsustainable nature of joint activities demonstrated in GNLE 1, 3, and 4 could be related to instructors' lack of pedagogical preparation. To run joint activities, instructors need greater skills in instructional design for distance learning such as creating collaborative and effective e-learning and teaching plans with their international partners, co-constructing curriculum, and facilitating communication and fostering learning communities across cultures and borders. In the case of GNLE 1, 3, and 4, the instructors had little motivation to continue with the delivery of joint activities via GNLEs, perhaps due to an on-going lack of pedagogical comfort, readiness, skills, and willingness in coordinating joint activities across cyberspace.

Outputs and outcomes
The objective of this paper is not to evaluate the impact of GNLEs. Yet, instructors mentioned various observable elements that were the result of joint activities, such as the number of virtual student meetings (GNLE 1 and 3), Facebook research groups (GNLE 3), students' work (e.g. reports, presentations, products, online platform) and the pedagogical material created by instructors (all GNLEs). For joint lectures, observable events include the number of lectures (7 in GNLE 5), the number of classrooms involved (3 in GNLE 2), students' homework and the website where students interact (GNLE 2).

In terms of outcomes, GNLE instructors demonstrated experiences of professional learning during the process of designing and building GNLEs. Their learning took place on professional knowledge landscapes that consist of spaces like classrooms, blogs, websites and online platforms; as well as learning interactions such as collaborative teaching or sharing the lessons learned with their colleagues. All five GNLE instructors also showed a sense of autonomy and ownership while establishing their GNLE. The instructor in GNLE 1 said, "I represented my college, it was my responsibility. You have to be like a traveling salesman. I did not know anyone; I searched over the Internet, contacted institutions before and said 'Here is what we are." Over time, through interacting with students, partners, technicians and administrators, instructors were able to improve knowledge about their own educational practice. As instructor in GNLE 4 said: "There is a real pedagogical work to structure the learning activity so both classes can understand. I usually don't take notes for myself… [I'm] not as structured. But it allows to archive and share pedagogical activities." GNLEs also provide rich opportunities for applied research (Starke-Meyerring et al., 2007). Although CEGEP instructors publish less than their university counterparts, GNLE 2 and 5 resulted in shared academic activities such as articles and papers in conferences.

Instructors also reported their increased capacity to develop and use new technologies in classroom teaching (GNLE 3, 4, 5); incorporate international dimensions into their curriculum (GNLE 2, 3); use new teaching methods (GNLE 1, 2, 4, 5); and maneuver administrative challenges (GNLE 3, 4). They also expressed deeper

understandings of other countries' education systems and pedagogies (GNLE 1, 3, 4); as well as students' learning process (GNLE 2, 4 and 5). That mix of intercultural and pedagogical learning is visible in the following quotes. The instructor in GNLE 5 said: "I must place myself in the shoes of Russian students and make explicit our implicit knowledge […]. I realized I had to be more structured in my lessons." The instructor in GNLE 4 said: "They don't teach the same way, they are more theoretical. […] We shared pedagogical activities, it gave us ideas to better our course and we made changes in our programs accordingly."

The outcomes of GNLEs on student learning were not part of the initial research question, yet instructors made clear that they designed GNLEs for their students. In addition to learn to work in virtual teams, students in GNLE 2, could gain access to famous scholars. As the instructor reported, "A speaker from Rwanda spoke on the role of the Francophonie in the global context; it changed students' perception of Africa… It impacted their understanding of the conflict." Students in GNLE 1 also benefited from "foreign expertise," the partner having completed a PhD in sociology and having brought new perspectives to industrial design. Instructors also recognized the influence of GNLEs on students' intercultural sensitivity. Instructor in GNLE 1 reported:

> [Students] visit the other team's website on slow-food and realize they have very good ideas. They communicate without speaking the same language and realize that 'the human is human'. They made videos to present themselves. Some were shy, they were laughing at the same place. They realized they were all human.

Similarly, in GNLE 4, "students are more introverted. [GNLE] is a way to open to the world and receive comments from another cultural context. Students are more receptive when there's a new way of teaching." GNLEs may promote access to various expertise and develop the capacity to work with peers from abroad (O'Brien & Erikson, 2010).

In short, believing that learning in a GNLE was beneficial for their students, the instructors interviewed were motivated to design and build GNLEs. Besides bringing positive influences to students' learning, the GNLEs have also catalyzed instructors' professional learning on professional knowledge landscapes that are locally situated and at the same time, globally expansive.

Discussion
This research aims to describe the GNLE design and implementation processes in a college context and to explore their contribution to instructors' professional learning. While the previous section shows the GNLE design and implementation processes as fluid and naturally leading to different kinds of learning, this section complicates their implications by showing how professional learning spurs from instructors' interaction with their international counterparts in ever-changing professional knowledge landscapes. In particular, it discusses how unexpected challenges and continuous partnerships have contributed to GNLE instructors' professional learning and how greater support for instructors' pedagogical preparation may shift instructors' experiences of running a GNLE and promote further professional learning.

"It did not work according to plans": Challenges and adaptation

For Clandinin and Connelly (1995), learning arises from the interplay between instructors' knowledge and contextm which is named professional knowledge landscape. When GNLEs emerge in the landscapes, their inherent chaotic elements challenge instructors' prior knowledge and expectations and may ultimately reshape the landscape. This reshaping process can be regarded as the first mechanism leading to professional learning. Although they do not see "disarray" as a goal, Herrington and Tretyakov (2005) write that:

> Because efficient collaboration is difficult to develop when crossing cultural, technological, temporal and linguistic boundaries, confusion and chaos are natural results. The chaos may be uncomfortable, but it is real and it is necessary (in the sense of both "unavoidable" and "beneficial") when struggling to reach cooperative goals. (p. 276)

In this study, the instructor who built GNLE 3 to fulfill his vision of globalizing social sciences learned after his first attempt of designing a GNLE that timing, technology and power imbalances have reduced the number of times students could interact and potentially undermined project objectives. In our thematic analysis, timing, technology and power imbalances became three organizing themes.

First, since GNLEs depend on the opportunity to conduct an activity in a coordinated manner, mismatch in schedules, time zone differences and holidays are reported among the most significant challenges (Mousten et al., 2008). The instructor in GNLE3 expressed difficulties in coordinating schedules for joint sessions. In his plan, "students [would have] worked together in a continuous way with no schedule problems"; yet he was unaware of his counterparts' school holidays and learned too late that it was Belgian March break when students had to present their results to one another. Similarly, the instructor in GNLE 5 learned only a week before his simultaneous lecture that Women's Day was a holiday in Russia due to which he had to cancel it. These timing issues, while disrupting instructors teaching plans, have enabled them to learn revealing facts about their partner's teaching context.

Second, since GNLEs are virtually created learning spaces, technical issues can be detrimental to planning and implementation (Starke-Meyerring et al., 2007). In terms of planning, the instructor in GNLE 4 perceived poor technologies as undermining the communication: "It's difficult to keep in touch. We mostly communicate by email. Skype did not work; there was no place with good connection." This instructor initiated a collaboration while not being aware that the bandwidth in his institution was not sufficient to support videoconferencing. Until his college improved the connection, he decided to rely on emails and patiently accepted that it would delay the design process. Technology also impacts the implementation of GNLEs. In GNLE 3, logistical factors and the absence of pre-testing party contributed to abandoning the virtual collaboration and keeping only the "study abroad" component of the project:

> We wanted to do Skype meetings for each deadline but none worked! Well the first worked but they were 75 students for one old laptop while we had a beautiful set-up. They did not have sound. It went super badly!

Third, power imbalances contradict the equal treatment and mutual instruction inherent to GNLEs (Starke-Meyerring & Andrews, 2006). Yet since colleges are shaped to respond to local needs, and CEGEP instructors and administrative staff report a difficulty to find similar programs and a need to convince their partners of the value of

CEGEP diploma (CSE, 2013). In GNLE 1, the CEGEP instructor tried to find a partner of the same status in Spain and, although he recognized that "they were more theoretical," he did not expect that the school of fine arts would end the project. The instructor reflected that, for the next GNLE, he would need to find a smaller and more applied institution in which some staff members would speak his language. In GNLE 5, CEGEP students of a French literature course were connected to Russian students pursuing a master's degree in French linguistic. The academic imbalance was mitigated by the CEGEP offering a rare opportunity to Russian students — deepening their understanding of "Quebec French." Yet, joint lectures were optional for Russian students while they were part of a mandatory course in Quebec. Some Quebec students told the instructor they felt they were putting on a show and were interesting to Russians only because of their Quebec accent. As the collaboration continued, the instructor decided to increase communication with his partner, encouraging him to also give lectures and integrate the perspective of the Russian students into his course.

Timing, technology and power issues disrupted instructors' professional knowledge landscape. Facing these unexpected challenges, instructors learned about their partner's teaching context, adapted their communication strategy and identified their mistakes. The instructor in GNLE 5 said that "when there [were] fewer surprises, there [was] little learning." However, when challenges jeopardized their efforts, two instructors adopted a "defense" position against differences, i.e. a dualistic us/them thinking where one's own culture is perceived as the most "evolved" (Bennett, 1986). In GNLE 3, the instructor criticized his Belgium partners because "they are not very reliable. They are more 'last-minute'; let's say because of their culture." Since partners in virtual collaboration remain in their local context while interacting with "otherness," they are particularly vulnerable to an attribution error, i.e. assuming one's behavior is cultural rather situational (Cramton, 2002). To avoid such pitfalls, these instructors may want to develop partnering competencies, authenticity and the ability to manage polarity (Starke-Meyerring et al., 2007).

In sum, as Wilson (2013) has observed, professional learning was experienced as being organic and consequential rather than planned or strategically devised; instructors must manage polarity (between global partnerships and local curricula) as well as adapt to the disruptive nature of GNLEs. As the instructor in GNLE 1 exclaimed "What did I learn? Complexity!" As Herrington and Tretyakov (2005) write,GNLEs are experiential learning forum in which unexpected challenges force instructors to readjust their thinking to identify failures and successes.

"Taking gradual small steps to make it happen": Trial and error and preparation
GNLEs are difficult to sustain and might be abandoned when partners face institutional, logistical, cultural or pedagogical challenges (Starke-Meyerring et al., 2008). Yet, despite frustration, disappointment and incomprehension, all instructors but one (GNLE 1) maintained a relationship with their partner. In fact, GNLEs have greater implications when instructors sustain and nurture the collaboration through trial and error. For example, the instructor in GNLE 3 expressed how changing partners after an unsatisfactory partnership experience was a mistake and how he should have continued to work on the first partnership:

> We thought they were not really reliable. So while I was there, I tried to make representations to other institutions. One was really into it! But, now that I think of it,

having changed partner was a bad move. We should have continued with the first one. We thought we would eliminate the problem. But the same problem happened [again].

He realized that there would be ongoing glitches and problems in running a GNLE with partners from different cultural backgrounds. Yet staying with one partner and cultivating that partnership could have helped him learn more about his partner and run a more effective GNLE in the long run. In fact, in GNLE 4, the instructor compared the relationships he had with different instructors in Belgium and France:

We have stronger and professional relationships with France. We went there three times, they came twice. With a contact every year, we pass to another working style. At first, we are more diplomatic, more careful. Now we are friends; discussions are more productive. It is crucial to know each other so well so more work can be done.

The experiences of this instructor confirm the necessity of a sustainable relationship (Wilson, 2013). CEGEP instructors learned about their partner's culture, developed cross-cultural skills and overcame difficulties inherent to virtual partnerships. Then they entered into a new phase of working relationship where "the real work" could start; they trusted their partner, avoided miscommunication and tried out new ideas. Talking about the importance of establishing a sense of continuity with partners, the instructor in GNLE 5 said, "It's great that our partner wants to continue for years…You learn all the time." For him, continuity fostered technological and pedagogical learning. At the beginning of establishing a GNLE, he needed a technician to carry out the technological set-up but, with time, he could perform the technological tasks by himself as part of his teaching repertoire. GNLE 5 started small but the collaboration becomes more intense. As the instructor said, "We started by only three exchanges, but last year we did seven. The next step is to make students interact with one another and work jointly using Google doc." Unlike more ambitious GNLEs that had to stop or transform, GNLE 2 and 5 started simple, but through small-steps improvements, proved to be more stable and were able to facilitate the instructor's learning and growth.

In addition to better understand one's partner and virtual collaboration, sustainable partnerships allow instructors to experiment with different teaching methods while being responsive to students' reactions. Instructor in GNLE 5 said, "We tried different things and realized the best way was to work on texts rather than to teach theoretical content". Even if GNLE 5 is a "joint lecture", the structure of GNLE seems to be conducive to experiential learning (O'Brien & Eriksson 2010). Through trial and error, he concluded that hands-on activities (e.g. analyzing one scene of a theatre play) were more adapted to shared virtual learning environments than theoretical lectures. In short, his professional landscape was changed by the presence of the Russian students.

One might question whether students become guinea-pigs of these experiments, which may ultimately undermine their learning process. The instructor in GNLE 5 recognized that he could present more content to his students outside the GNLE, and the instructor in GNLE 3 doubted that the virtual collaboration provided meaningful learning if it was not followed by a "study abroad" component. GNLEs that offer preparatory and debriefing sessions allow students to adjust to projects' complexity and self-reflect on their intercultural communication skills (Du-Babcock & Varner, 2008); yet none of these were mentioned. Instructors however perceive GNLEs as having a positive influence on students' motivation, intercultural sensitivity and educational experience.

Pedagogical preparation and support

The previous discussions showed that GNLE instructors experienced professional learning through responding to unexpected challenges and through instructing their courses via trial and error. However, many of these unexpected challenges could have been mitigated had the instructors received pedagogical preparation. Starke-Meyerring et al. (2008) emphasized that sustainable GNLE partnerships require relationship building, thoughtful inquiry into each partner's local context and careful negotiation of a shared vision. Most instructors interviewed did not have adequate pedagogical preparation, except for GNLE 2 where the instructor had extensive online discussions regarding pedagogy, educational philosophy and teaching material with his collaborators. The reasons for inadequate pedagogical preparations on the part of instructors vary. In GNLE 1, the instructor initiated discussions with his international partner via Skype; however, language barriers prevented both parties from going deeper into the pedagogical planning process. In GNLE 3, the instructor did not take enough consideration of technological and cultural issues subsequently affected his experiences of a GNLE and his sense of efficacy as an instructor. In GNLE 4, the CEGEP instructor had to take a longer time to be pedagogically prepared to teach in a GNLE because he did not have job relief. His students started collaborating on a GNLE platform in the absence of their instructor's readiness to support their learning. In GNLE 5, the CEGEP instructor did not carry out much preparation with his collaborator before instructing in a GNLE. GNLE 5 therefore started smaller and the preparation was "done while doing" and involved real-time adaptation.

While the CEGEP instructors could certainly benefit from being more pedagogically prepared before starting a GNLE, it is not clear how and where these instructors would obtain relevant training. GNLEs rarely attract timely institutional support since they fall between regular classroom learning and international learning (Starke-Meyerring et al. 2008). In CEGEPs, the international components of GNLES were supported by international offices (to find partners), the Government of Quebec (to fund travel grants) and the CEGEP Federation (promoting CEGEPs). However, instructors obtained little support to aid their pedagogical practices in GNLEs. For instance, the instructor in GNLE 4 would have appreciated the support of pedagogical advisors to integrate his project into the regular curriculum. Hinson and LaPrairie (2005) found that instructors building e-learning projects become more spontaneous and confident when they are individually supported and trained by professionals. However, unlike in universities (Wilson, 2013), that form of pedagogical training did not seem available.   Had there been greater professional support, instructors might have encountered fewer surprises and been more capable of dealing with them.

Conclusion

The objective of this research was to describe the design process of GNLEs and explain how it contributes to CEGEP instructors' professional learning. Findings confirm that unlike many inter-institutional projects, GNLEs are grassroots partnerships owned by instructors who, despite an externally-framed curriculum, become both "knowers" and

curriculum makers. Relying on initial support (e.g. opportunity, travel grant and job relief) and their "risk-taking" nature, instructors built "small windows to the world" for their students and themselves. GNLE design and implementation processes fostered instructors' technological, intercultural and pedagogical learning.

As the literature on universities suggested, GNLEs foster learning because inherent chaotic elements (Herrington & Tretyakov, 2005) disrupt instructors' knowledge landscapes and force self-reflection. Changes are more meaningful and effective if they occur over a sustained period of time (Hinson & LaPrairie, 2005). If these findings echo studies in a university context, the college specificity also has a particular influence on GNLEs. First, CEGEP are part of a knowledge diplomacy initiative in which the Government of Quebec encourages international mobility. It might explain why all GNLEs in CEGEP were linked to instructor mobility and why GNLE 3 and 4 led to study abroad projects. Second, GNLES in colleges appear less intense than in universities and take the form of joint lectures or joint activities, rather than joint courses or programs. This could be explained by rigid curricular frameworks (Lavoie, 2008) and lower level of institutionalization of international activities in CEGEPs (CSE, 2013). Moreover, challenges combined with a possible lack of pedagogical preparation have ended, halted or transformed joint activities; while joint lectures lasted longer and move towards a more intense form of collaboration. And if GNLEs must not simply repack existing courses for online delivery (Starke-Meyerring et al, 2008), it appears efficient in a college context to start with joint lectures that incrementally expand international networks and, when trust is established, allow for pedagogical experiments.

Finally, this research relied on instructor's perspectives and cannot comment on the value of GNLEs from a students' point of view. In future research, students could be involved through participant observation, survey and interviews to explore the added-value to their learning. This study however represents a stepping-stone in an incremental process and might prove useful to instructors and administrators who wish to understand how GNLEs can be designed and implemented in a non-university, post-secondary environment.

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